

# From Stories to Graphs

Name \_\_\_\_\_

1. In a walking experiment, Josephine walked a total distance of 40 feet. At the halfway point, she had walked for 25 seconds. She stopped for 5 seconds to tie her shoe and then continued walking for 25 more seconds. Sketch a graph that shows Josephine's distance from the starting point over time.

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2. You are gathering data in the school cafeteria from 8:00 A.M. to 3:00 P.M. Sketch a graph that tells a story about the number of cans of soda in a vending machine over that time. Write a paragraph that tells the same story in words.

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3. You are mowing the lawn. As you mow, the amount of grass to be cut decreases. You mow at the same rate until about half the grass has been cut. Then you take a break for a while. Then, mowing at the same rate as before, you finish cutting the grass. Sketch a graph that shows how much uncut grass is left as you mow, take your break, and finish mowing.

# The Lins Go on an Outing

Your personal experience with this activity will inform your participation in the discussion on how this and other activities might be used in a lesson about motion.

## Your Task:

1. Read the story about the Lin's family trip.
2. Then examine the eight graphs below. Four of the graphs describe different things about their trip: distance from the starting point over time, total distance traveled over time, speed over time, and hunger over time. The other four graphs are not applicable to the story.
3. Identify the graphs that represent the story and decide what the vertical axis should be labeled for each of the four correct graphs.

## Story:

At 10:00 a.m. on Sunday, the Lin family set out on a car ride. For the first hour they traveled at an average speed of 40 miles per hour. In the second hour, traffic was heavy, so they only drove at 20 miles per hour. From 12 P.M. to 1 P.M., they stopped for lunch and did not drive at all. After lunch, it started to rain, so they decided to go home. They drove at 30 miles per hour to get home.

Which of these graphs represents distance from the starting point over time? Total distance traveled over time? Speed over time? Hunger over time? How would you label the intervals on the y-axis of each graph?

